CLAIMS

We claim:

1. Method for depositing a material (3) on a substrate wafer (1) having the following method steps:

(a) provision of the substrate wafer (1), which has a growth area (4) intended for a later material deposition,

(b) application of a thermal radiation absorption layer (2), which exhibits a good absorption of thermal radiation on the rear side (5) of the substrate wafer (1), which faces away from the growth area (4),

(c) heating of the substrate wafer (1) to the deposition temperature,

(d) deposition of a material (3) onto the growth area (4) of the substrate wafer (1) by an MOVPE method.

2. Method according to Claim 1,
in which the material (3) to be deposited is a semiconductor material.

3. Method according to Claim 1,
in which the material (3) to be deposited comprises at least one layer made of $Al_xGa_yIn_{1-x-y}N$, where $0 \leq x+y \leq 1$, $0 \leq x \leq 1$, $0 \leq y \leq 1$ apply.

4. Method according to claim 1,
in which a substrate wafer is used which essentially comprises SiC or an SiC-based material.

5. Method according to claim 1,
in which a material or a material mixture which exhibits inert behaviour during the deposition method in accordance with method step (d) is applied as the thermal radiation absorption layer (2).

6. Method according to claim 1,
in which a material or a material mixture which is compatible with the material and/or the contact-connecting process of an electrical contact that is to be applied later, is applied as the thermal radiation absorption layer (2).

7. Method according to claim 1,
in which the thermal radiation absorption layer (2) is applied by means of sputtering in accordance with method step (b).

8. Method according to claim 1,
in which a doped Si layer, in particular a highly doped Si layer, is used as the thermal radiation absorption layer (2).

9. Method according to Claim 8,
in which the Si layer is applied with a thickness which lies between 10 nm and 20 µm inclusive.

10. Method according to Claim 8,

in which the Si layer has a doping of at least $1 \times 10^{19}/cm^3$.

11. Method according to claim 1,

in which the heating in accordance with method step (c) is essentially effected by means of thermal radiation.

12. Method according to claim 1,

in which, in method step (c), a heating source is used which generates thermal radiation of a spectral range for which the thermal radiation absorption layer (2) exhibits good radiation absorption.